MARYLAND BANKERS ASSOCIATION

Asset/Liability Management

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2024 Maryland Banking School

August 6, 2024

ASSET/LIABILITY MANAGEMENT

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Presentation Outline

- Definition of Asset/Liability Management
  - Basic Terminology
  - Financial Risk Categories
- Understanding Liquidity Risk
- Understanding Interest Rate Risk
- Asset/Liability Structure and Function
  - Role of ALCO
  - Objectives
  - Members & Duties
  - Agenda

Definition of Asset/Liability Management

Asset Liability Management (A/L/M) is a management *process* with the goals of :

1. Maximizing and growing Net Interest Income,
2. Minimizing and controlling financial risks; and
3. Maintaining adequate capital.

Definition of Asset/Liability Management

Some basic terminology:

- Net Interest Income = Interest Income – Interest Expense

- Earning Asset Yield = Interest Income/Earning Assets
- Cost of Funds Rate = Interest Expense/Interest Bearing Funds
- Spread = Earning Asset Yield – Cost of Funds Rate

- Net Interest Margin = Net Interest Income/Earning Assets

- Return on Equity (ROE) = Net Income/Total Equity (avg)

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Financial Risks – Categories

<u>Based on the Comptroller of the Currency's Categories:</u>

- Asset Quality (Credit)
- Liquidity
- Interest Rate
- Price
- Operations (Transaction)
- Foreign Exchange
- Reputation
- Strategic
- Compliance

Source: OCC's Community Bank Risk Assessment System - Comptroller's Handbook, April 1996

Understanding Liquidity Risk

- Risk Assessment Tests - Key Questions:
  1. How much Liquidity Risk is present?
  2. What are the sources of the risk?

- The goal of liquidity management is to meet the demand for funds from both depositors and borrowers. Banks must be able to meet these needs with cash on hand, by selling non-cash assets or by borrowing from new depositors or lenders.
- A primary focus of liquidity management is to match the cash inflows and outflows within the bank's natural market for loans and deposits.
- Short-term investments and short-term borrowings are used as the primary cash management and liquidity management tools. The bank's investment portfolio will provide secondary liquidity.
- Finally, alternative sources of funds that the bank has established may be utilized as a secondary source of funds.

Understanding Liquidity Risk

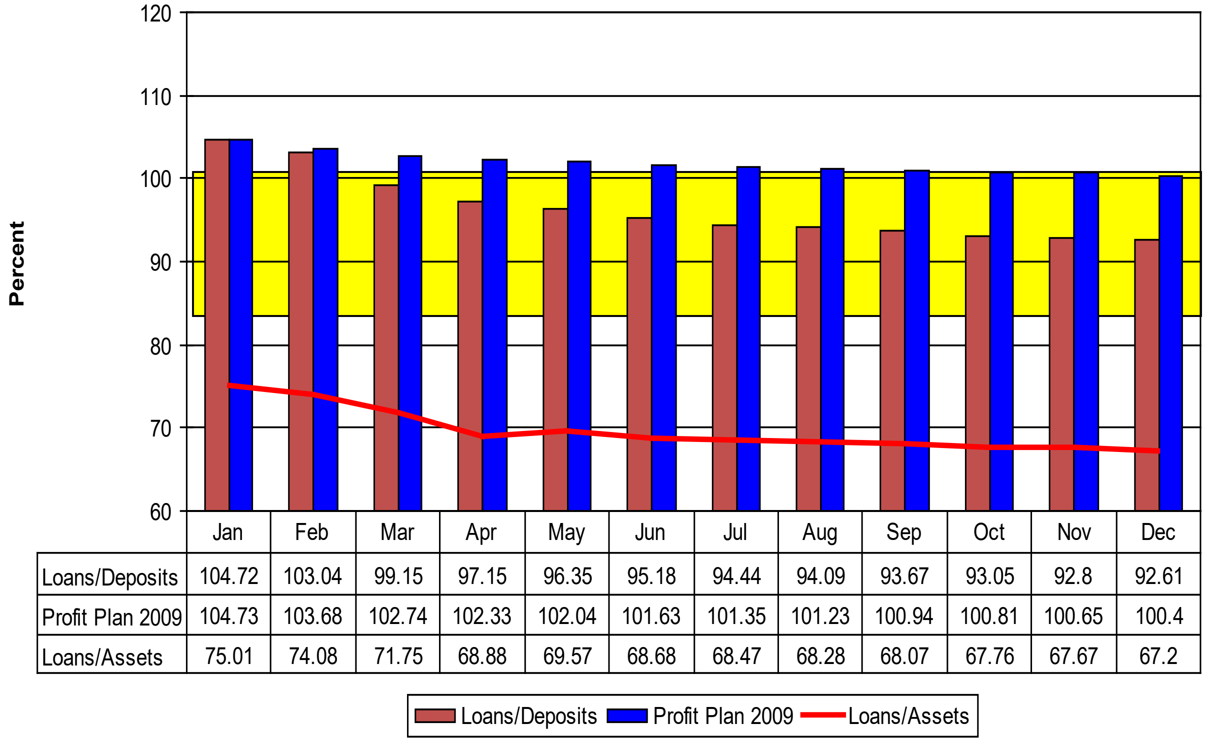
SOURCES & USES OF CASH - EXECUTIVE
As of 12/31/11

BEGINNING SHORT POSITION	**-57536**					
	1-90 DAYS	**91-180 DAYS**	**181-270 DAYS**	**271-360 DAYS**	**WAS**	**NOW**
SOURCES OF CASH:						
EFFECT MAT./CALLS/PRIN PMTS INVEST.	162466	97359	82565	42498	372420	384888
SALE OF INVESTMENTS	10000	0	0	0	10000	10000
REPAYMENT OF LOANS*	127114	153836	142433	131989	555372	555372
NEW BORROWINGS	0	0	0	0	0	0
EXCESS STOCK REDEMPTION	0	0	0	0	0	0
INCREASES IN DEPOSITS*	23953	23768	9568	8254	65544	65544
SUBTRACT RESERVE SWEEP ACCTS*	0	0	0	0	0	0
LOAN SALES	0	0	0	0	0	0
INTEREST ON INVESTMENTS*	7231	6936	6827	6744	27737	27737
INTEREST & FEES ON LOANS*	26460	26611	26744	26860	106675	106675
NON-INTEREST INCOME*	10841	11204	11090	11458	44593	44593
TOTAL SOURCES OF CASH	**368065**	**319713**	**279228**	**227803**		
USES OF CASH:						
PURCHASE OF INVESTMENTS	-70000	-110000	-85000	-35000	-325351	-300000
NEW COMMERCIAL LOANS*	-71103	-94556	-91909	-85926	-348421	-343494
NEW CONSUMER LOANS*	-19933	-20946	-22499	-23943	-87322	-87322
NEW MORTGAGE RESIDENTIAL*	-31988	-29976	-28085	-26265	-116313	-116313
NEW R/E CONSTRUCTION RES*	-17052	-17248	-19775	-19153	-73227	-73227
DECREASE IN DEPOSITS*	-36306	-12910	-5279	-2667	-57162	-57162
TARP FUNDS REPAID	0	0	0	0	0	0
PURCH ADDTL FHLB STOCK	0	0	0	0	0	0
REPAYMENT OF BORROWINGS*	0	0	0	0	0	0
INTEREST ON DEPOSITS*	-2151	-2048	-1957	-1892	-8048	-8048
INTEREST ON BORROWINGS*	-3588	-3588	-3627	-3627	-14430	-14430
NON-INTEREST EXPENSE*	-26904	-25651	-25359	-25609	-103522	-103522
TOTAL USES OF CASH	**-279025**	**-316923**	**-283490**	**-224081**		
ASSUMING NO ROLLOVERS OF FHLB CALLS:						
NET CASH	**89040**	**2790**	**-4261**	**3722**		
PROJECTED ENDING SHORT POSITION	**31504**	**34295**	**30033**	**33755**		
LOAN GROWTH*	12961	8890	19835	23298	69911	64984

Understanding Liquidity Risk

Loans to Deposits and Loans to Assets

Loan to Deposit %--
Acceptable range 85%-100%



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Loans/Deposits	104.72	103.04	99.15	97.15	96.35	95.18	94.44	94.09	93.67	93.05	92.8	92.61
Profit Plan 2009	104.73	103.68	102.74	102.33	102.04	101.63	101.35	101.23	100.94	100.81	100.65	100.4
Loans/Assets	75.01	74.08	71.75	68.88	69.57	68.68	68.47	68.28	68.07	67.76	67.67	67.2

Understanding Interest Rate Risk

- Risk Assessment (Measurement) Tests - Key Questions:
  1. How much Interest Rate Risk is present?
  2. What are the sources of the risk?

- The IRR goals are (1) to increase the dollars of net interest income at a growth rate consistent with the growth rate of total assets and, given fluctuations in the external interest-rate environment, (2) to minimize fluctuations in net interest margin as a percentage of earning assets.
- These goals will be accomplished by balancing, within policy limits, the volume of floating-rate liabilities with a similar volume of floating-rate assets, by keeping the average maturity of fixed-rate asset and liability contracts reasonably matched, by maintaining a large pool of administered core deposits and by adjusting pricing rates to market conditions on a weekly basis.

Understanding Interest Rate Risk

<u>The Sources of IRR:</u>

Timing of Repricing Mismatches (Rate Risk)

the mismatch between the amount of assets maturing/repricing and the amount of liabilities maturing/repricing

Varying Spread Relationships (Basis Risk)

varying relationship between two different interest rates (asset rates do not change by the same amount as liability rates)

<u>Yield Curve Risk</u>- changes in the shape of the yield curve

<u>Index Lag Risk</u> - timing differences that change the relationship between an index rate and another rate

Embedded Customer/Wholesale Options (Options Risk)

options granted that change the original terms of the contract

Understanding Interest Rate Risk

<u>The Sources of IRR:</u>

Example Balance Sheet Position -

Fixed Rate Asset

vs.

Short-Term Variable Rate Funding

Asset	$1,000
Rate	10%
Term	6 months
Liability	$ 900
Rate	9%
Term	3 Months
Net Interest Income for 1 year	$ 19

Understanding Interest Rate Risk

The Sources of IRR:

TIMING MISMATCH -

Earnings Change When the *General Level* of Rates Change

What happens if *Rates Rise* 200 Basis Points?

Asset 6 mos @ 10% + 6 mos @ 12%	$110
Liability 3mos @ 9% + 9 mos @11%	$ 95
Net Interest Income for 1 year	$ 15

Understanding Interest Rate Risk

The Sources of IRR:

BASIS RISK -

Earnings Change When the *Relationship Between Rates* Change (Asset- Treasury based, Liability - LIBOR based)

What happens if *Rates Rise* 200 Basis Points and *Margin Shrinks* 50 Basis Points?

Asset 6 mos @ 10% + 6 mos @ 12%	\$110
Liability 3mos @ 9% + 9 mos @11.5%	\$ 98
Net Interest Income for 1 year	\$ 12

Understanding Interest Rate Risk

<u>Example Balance Sheet Position #2</u>-

Fixed Rate Asset

vs.

Fixed Rate Funding

Asset	$1,000	$100
Rate	10%	
Term	12 months	
Liability	$1,000	$ 80
Rate	8%	
Term	12 months	
Net Interest Income for 1 year		$ 20

Understanding Interest Rate Risk

<u>The Sources of IRR:</u>

<u>OPTION RISK</u> -

Earnings Change When the *Underlying Cash Flows* Change

(Customer option exercised)

What happens if *Rates Decline* 200 Basis Points after 6 months <u>and</u> *Customer Prepays Loan*?

Asset 6 mos @ 10% + 6 mos @ 8%	\$ 90	(\$50 + \$40)
Liability 12 mos @ 8%	<u>\$ 80</u>	
Net Interest Income for 1 year	\$ 10	

Measurement Tools

GAP

Depicts the *mismatch* between the amount of Assets and Liabilities maturing/repricing within a defined time period

Duration Analysis

Present Value weighted maturity of an instrument's individual cash flows, used to predict the *expected change* in market value for a prescribed change in interest rates

Simulation Models

Starting with the current Balance Sheet, including detailed maturity and repricing volumes and rates, *simulates potential earnings and value* under various future rate scenarios and assumptions for various balance sheet structures

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CAPITAL ADEQUACY

- Is the capital positon appropriate given the Bank’s:
  - Balance sheet structure
  - Projected growth
  - Strategic initiatives, and
  - Assessment of risk factors

- Two of the primary measurements the bank utilizes to monitor it’s Capital Adequacy are:
  - Tangible Equity to Tangible Assets
  - Total Risk Based Capital

CAPITAL ADEQUACY

	Total Risk Based Capital Ratio	Common Equity Tier 1 Capital Ratio	Tier 1 Capital Ratio	Tier 1 Leverage Ratio	**Tangible Equity / Tangible Assets**
PCA Well Capitalized	10.00%	6.50%	8.00%	5.00%	
Capital Requirement	8.00%	4.50%	6.00%		
Capital Conservation Buffer	2.50%	2.50%	2.50%		
Required Standard With Capital Conservation Buffer	10.50%	7.00%	8.50%	5.00%	2.00%
Level 1 Buffer	0.50%	1.00%	1.00%	2.00%	4.50%
Level 2 Buffer	0.25%	1.00%	1.00%	1.00%	0.50%
Capital Target Ratio (Level 1 Buffer)	**11.00%**	**8.00%**	**9.50%**	**7.00%**	**6.50%**
Capital Goal Ratio (Level 1 & 2 Buffer)	**11.25%**	**9.00%**	**10.50%**	**8.00%**	**7.00%**
Current Measure - 12/31/2019	13.44%	12.65%	12.65%	10.94%	NA
Current Buffer	5.44%	8.15%	6.65%		
Excess / (Deficiency) to Capital Conservation Buffer	2.94%				
Capital Buffer in $'s	$208,188				
Historical Low	10.84% 3/31/2008	7.77% 12/31/2009	9.72% 6/30/2008	7.33% 9/30/1998	5.49% 6/30/2000
Most Recent Stress Scenario	11.29%	9.83%	10.01%	8.60%	8.33%

Objectives of the ALCO

The ASSET/LIABILITY MANAGEMENT COMMITTEE (ALCO) exists to provide structure to the asset/liability management function.

This Charter and all Asset/Liability Management Policies are reviewed with and approved by the Board of Directors annually.

Authority of the ALCO

The ALCO was created to perform the following functions:

- **Establish, review, and implement policies for managing the sources and uses of funds that will provide an appropriate level of profitability consistent with Plan growth within acceptable levels of risk;**

- **Communicate approved policies to managers and officers and monitor and enforce compliance with these policies; and**

- **Assign projects to individual staff members, task forces, or committees for researching, analyzing, and formulating recommendations on issues before the ALCO.**

Membership of the ALCO

Membership on the ALCO is by appointment of the Chief Executive Officer and the Chief Financial Officer. All members of the ALCO are experienced personnel in their respective areas of accountability and are appointed to the Committee based on their title and function within the Company.

Committee Role	Functional Title
Chairman	EVP & Chief Financial Officer
Member	President & Chief Executive Officer
Member	SVP Treasurer
Member	EVP Chief Information Officer
Member	EVP Commercial Lending & Retail Banking
Member	EVP Wealth Management & Mortgage
Member	EVP Chief Credit Officer
Member	SVP Mortgage Division
Member	SVP and Controller
Member	SVP Director of Marketing
Member	Asset/Liability Manager

Duties of Members of the ALCO

The members of the ALCO represent their respective functional areas and have the following responsibilities:

Ensuring that any operating decision, operating policy, or plan(s) that relate to their functional areas of responsibility are consistent with ALCO policy decisions,

Identifying and addressing at ALCO any pertinent issues affecting the asset/liability process; and

Performing other specific duties assigned by the chairman of ALCO

In addition, the chairman has assigned committee members the following specific responsibilities:
The Treasurer…..
The EVP Chief Credit Officer….

The SVP Director of Marketing is responsible for introducing new products for analysis and profitability and reporting on deposit product profitability trends, pricing changes, closed account analysis, and other actions taken.

Sample ALCO Agenda

Asset and Liability Committee Agenda

Tuesday, June 27, 2010 @ 8:30 a.m. (Board Room)

1. **Welcome, Minutes of Last Meeting**
2. **Market Interest Rates and Internal Projections**
3. **This Meeting Areas of Emphasis:**
   a. **Investment Portfolio Situation Analysis and Strategy**
   b. **2nd quarter and full year 2010 Forecast:**
      - ➢ **Loan Growth Comments**
      - ➢ **Mortgage Banking Activity**
      - ➢ **Deposit Growth and Activity Update**
      - ➢ **Marketing Updates**
      - ➢ **Net Interest Margin Trends**

   c. **Asset Quality Review**
   d. **Liquidity Risk Position and Policy Guidelines**
   e. **Interest Rate Risk**
      - ➢ **Alternative Forecast Scenarios**
      - ➢ **Hedging and Derivatives sub-committee update**

   f. **2nd Quarter Capital Management Update**
   g. **Retail Deposit Pricing Recommendation(s)**
   h. **Repurchase Agreement Pricing Recommendation**
   i. **Trust Deposit Account Pricing recommendation**

Next Meeting: July 25 @ 8:30 A.M.